

#### ABSTRACT OF THE DISCLOSURE

Methods and systems for the treatment of pulp are provided. The methods include dewatering pulp to a fiber concentration of at least 20%, shredding the dewatered pulp in a closed pulp shredding vessel, transporting the shredded pulp without compression continuously out of the pulp shredding vessel through an outlet pipe which is kept completely filled with passing pulp, directly transporting the shredded pulp to a reaction vessel through a gas-tight conduit gas sealed from the surroundings and communicating with the outlet pipe and the reaction vessel, bleaching the shredded pulp in the reaction vessel with ozone gas, and regulating the gas pressure in the pulp shredding vessel and in the reaction vessel so that ozone gas is prevented from leaking upstream through the outlet pipe.

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